

**WHAT IS CLAIMED IS:**

1. An imaging process for producing a clean, readable binary image of a scanned document comprising the steps of:
  - a. digitally capturing a document as a gray scale image;
  - b. performing an image adaptive thresholding process to convert the gray scale image into a binary image;
  - c. inspecting the binary image to create an image noise index value indicative of the amount of undesirable image artifacts or image information loss;
  - d. determining whether the image noise index is equal to or greater than a predetermined threshold value; and
  - e. performing an image correction process to produce a readable, clean binary image when said image noise index value is determined to be equal to or smaller than said threshold value.
2. An imaging process for producing a clean, readable binary image as set forth in claim 1, wherein the image correction process comprises digitally capturing the document as a new gray scale image followed by repeating steps b.) - e.) until the image noise index value falls below the predetermined threshold value.
3. An imaging process for producing a clean, readable binary image as set forth in claim 1, further comprising the step of storing the gray scale image and the image correction process comprises retrieving the gray scale image from storage followed by repeating steps b.) - e.) until the image noise index value falls below the predetermined threshold value.
4. An imaging process for producing a clean, readable binary image as set forth in claim 1, wherein the step of determining comprises comparing the image noise index for an image with a predetermined threshold value selected to generate the least background noise while retaining all the image information on the gray scale image wherein when the image noise index value is

at or above the predetermined threshold value the gray scale image is determined to be a noisy binary image requiring correction

5. An imaging system for producing a clean, readable binary image of a scanned document comprising:

- a. means for digitally capturing a document as a gray scale image;
- b. means for performing an image adaptive thresholding process to convert the gray scale image into a binary image;
- c. inspection means for the binary image to create an image noise index value indicative of the amount of undesirable image artifacts or image information loss;
- d. processing means for comparing the image noise index for an image with a predetermined threshold value; and
- e. processing means for performing an image correction process to produce a readable, clean binary image when the image noise index is equal to or greater than the predetermined threshold value.

6. An imaging system for producing a clean, readable binary image as set forth in claim 5, wherein the processing means for image correction comprises a means to digitally capture the document as a new gray scale image and means for repeating the inspection and correction of the image by the means b.) - e.) until the image noise index value falls below the predetermined threshold value.

7. An imaging system for producing a clean, readable binary image as set forth in claim 5, further including means to store the gray scale image and wherein the processing means for image correction comprises means for retrieving the gray scale image from storage and means for repeating the inspection and correction of the image by the means b.) - e.) until the image noise index value falls below the predetermined threshold value.

8. An imaging system for producing a clean, readable binary image as set forth in claim 5, wherein the processing means for comparing the noise index comprises means for comparing the image noise index for an image with a predetermined threshold value selected to generate the least background noise while retaining all the image information on the gray scale image wherein when the image noise index value is at or above the predetermined threshold value the gray scale image is determined to be a noisy binary image requiring correction.

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